



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,887	02/27/2004	William A. Koonce	63309A	9321
109	7590	05/09/2006	EXAMINER	
THE DOW CHEMICAL COMPANY INTELLECTUAL PROPERTY SECTION P. O. BOX 1967 MIDLAND, MI 48641-1967			NILAND, PATRICK DENNIS	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/789,887

Applicant(s)

KOONCE ET AL.

Examiner

Patrick D. Niland

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/27/04, 2/3/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

Art Unit: 1714

1. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The instant claims recite a “nonvolatile non-reactive property enhancing water-soluble compound”. It is unclear what is intended by “non-reactive”. All of the claimed examples of these compounds are clearly reactive and the instant claims 9-12 and 19-21 (of which decomposition is a reaction) clearly require the reaction of these so-called “non-reactive” compounds. It is therefore unclear what is meant by either or both of “non-reactant” and the various forms of “reacts” and “decomposition” which are used in these claims. It is unclear how a non-reactive component can react or decompose.

B. It is unclear what is meant by claim 6. Specifically, it is unclear if the “polyurethane particles” are polyurethanes made from aromatic polyisocyanates or if they are particles of an aromatic polyisocyanate per se, as the claim language literally states. Given the applicant’s ability to be their own lexicographer, it is not clear that “polyurethane” of the preamble must be interpreted to require urethane groups to be present in the claimed “aromatic polyisocyanate”.

C. The instant claims 10, 11, and 12 recite “aforementioned”. It is unclear what is meant by aforementioned. It is unclear if “aforementioned means all of the things recited prior to “aforementioned” or only the thing recited immediately before “aforementioned” or something else.

D. The instant claims 20-21 recite “NNPEW”. It is unclear what is meant by “NNPEW” and the claims do not have antecedent basis for “NNPEW”.

Art Unit: 1714

2. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the disclosed “nonvolatile non-reactive property enhancing water-soluble compounds”, does not reasonably provide enablement for all of the “nonvolatile non-reactive property enhancing water-soluble compounds” encompassed by the instant claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

A. The ordinary skilled artisan could not determine all of the “nonvolatile non-reactive property enhancing water-soluble compounds”, their decomposition products, and reaction products which are intended to be within the scope of the instant claims and which are not specifically disclosed in the instant specification without undue experimentation particularly considering the lack of guidance in the instant specification as to how to choose those “nonvolatile non-reactive property enhancing water-soluble compounds”, decomposition products, and reaction products which are not specifically mentioned in the instant specification, the unpredictability of the chemical arts, the fact that there appears to be an infinite number of such potential compounds, and the complication and aggravation of these factors by the indefiniteness of the term as stated in the paragraph above. It would require essentially an infinite amount of experimentation to determine all of the compounds which fall within the scope of the instant claims and which function according to the instantly claimed invention. This is an undue amount of experimentation in that it would be impossible to accomplish.

B. The instantly claimed “nonvolatile non-reactive property enhancing water-soluble compounds” are not commensurate in scope with the instant enabling specification. The instant

Art Unit: 1714

specification requires that these compounds not react with the polyurethane, not, as the claims require, that they be altogether “non-reactive”. See page 10, first paragraph of the instant specification.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-12 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 3920598 Reiff et al..

Reiff et al. discloses the instantly claimed polyurethane where water is the “decomposition product” which is not required by the claims to retain the recited properties of its precursor and is not expected to retain the properties of the precursor given its change in the decomposition reaction. Note that all of the claimed compounds will give water in pyrolysis in oxygen where they contain H atoms in the molecules. Since the polyurethane has the decomposition product of the instant claims in it, it must inherently have the properties of the instant claims 15-18. The PTO has no facilities to test products and the patentee is silent regarding these properties. The

Art Unit: 1714

burden is on the patentee therefore to show that these properties are not necessarily inherent to the disclosure of the patentee. Residual water is expected to act as a plasticizer in the final film of the patentee which is expected to contribute to all or most of the properties required by claims 15-18. See the entire patent.

6. Claims 1, 2, 7-13, and 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. Application Pub. US 2003/0012959 A1 Doty et al..

Doty et al. discloses the instantly claimed invention at the abstract ; sections [0009]-[0011]; [0022] where the aminoplasts made from urea or guanidine fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of claim 2 component a. It crosslinks the polymer and thus increases its molecular weight which increases its modulus and therefore increases or improves all properties related thereto. The property of the instant claim 8 must be inherent to the disclosure of Doty since they perform the same method though the reference is silent regarding this property. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that this property is not necessarily inherent to the method of Doty.

Since the polyurethane has the decomposition product of the instant claims in it, it must inherently have the properties of the instant claims 15-18. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that this property is not necessarily inherent to the method of Doty. Forming the coating of Doty and baking it (section [0029]) is the method of the instant claim 19. The polyurethane modifies the rheological properties of the dispersion and therefore claim 20 is met.

Art Unit: 1714

The crosslinkers are also expected to react with functional groups on the other additives disclosed throughout Doty. See the entire document, particularly the examples.

7. Claims 1, 2, 7-13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. Application Pub. US 2003/0012959 A1 Doty et al..

Doty et al. discloses the instantly claimed invention at the abstract ; sections [0009]-[0011]; [0022] where the aminoplasts made from urea or guanidine fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of claim 2 component a. It crosslinks the polymer and thus increases its molecular weight which increases its modulus and therefore increases or improves all properties related thereto. The property of the instant claim 8 must be inherent to the disclosure of Doty since they perform the same method though the reference is silent regarding this property. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that this property is not necessarily inherent to the method of Doty.

Since the polyurethane has the decomposition product of the instant claims in it, it must inherently have the properties of the instant claims 15-18. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that this property is not necessarily inherent to the method of Doty. Forming the coating of Doty and baking it (section [0029]) is the method of the instant claim 19. The polyurethane modifies the rheological properties of the dispersion and therefore claim 20 is met. The crosslinkers are also expected to react with functional groups on the other additives disclosed throughout Doty. See the entire document, particularly the examples.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the above discussed combinations of ingredients in the compositions and methods of Doty because they are disclosed by Doty and would have been expected to give the properties of the compositions of Doty.

8. Claims 1-21 are rejected under 35 U.S.C. 102(a) as being anticipated by US Pat. Application Pub. 2003/0195293 Lubnin et al..

Lubnin discloses an aqueous polyurethane dispersion which does not need to be ionizable and contains urea, sugars, and other compounds which appear to fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of claims 1, 2, 3, 4, 7, 9, 10, 11, 12, 13, and 14 at section [0095]. See the abstract and sections [009] through [0141], particularly sections [0020], [0063], [0070], [0073] which appear to be able to react with many of the compounds which fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound”, [0080], [0092], [0095], [0101], [0102], and [0085]. The mechanical energy of section [0085] will necessarily raise the temperature of the mixtures, i.e. heat it according to the instant claim 19. The reactive plasticizers appear to be able to react with many of the additives of Lubnin falling within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” under these conditions. Since the polyurethane has the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of the instant claims in it, it must inherently have the properties of the instant claims 8 and 15-18. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that these properties are not necessarily inherent to the disclosure of Lubnin.



Art Unit: 1714

9. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. Application Pub. 2003/0195293 Lubnin et al..

Lubnin discloses an aqueous polyurethane dispersion which does not need to be ionizable and contains urea, sugars, and other compounds which appear to fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of claims 1, 2, 3, 4, 7, 9, 10, 11, 12, 13, and 14 at section [0095]. See the abstract and sections [009] through [0141], particularly sections [0020], [0063],[0070], [0073] which appear to be able to react with many of the compounds which fall within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound”, [0080], [0092], [0095], [0101], [0102], and [0085]. The mechanical energy of section [0085] will necessarily raise the temperature of the mixtures, i.e. heat it according to the instant claim 19. The reactive plasticizers appear to be able to react with many of the additives of Lubnin falling within the scope of the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” under these conditions. Since the polyurethane has the instantly claimed “nonvolatile non-reactive property enhancing water-soluble compound” of the instant claims in it, it must inherently have the properties of the instant claims 8 and 15-18. The PTO has no facilities to test products and the patentee is silent regarding these properties. The burden is on the patentee therefore to show that these properties are not necessarily inherent to the disclosure of Lubnin.

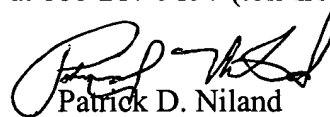
It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the above discussed combinations of ingredients in the compositions and methods of Lubnin because they are disclosed by Lubnin and would have been expected to give the properties of the compositions of Lubnin.

Art Unit: 1714

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland  
Primary Examiner  
Art Unit 1714